

WHAT IS CLAIMED IS:

1. An apparatus for re-transmitting erroneous packet data in a communication system, comprising:

a buffer coupled to store transmitted data;

a controller configured to control the buffer to allow a data re-transmission

5 function to be carried out; and

a radio frequency unit configured to transmit the data.

2. The apparatus of claim 1, wherein the buffer, the controller, and the radio frequency unit operate in a physical layer.

3. The apparatus of claim 1, wherein the buffer is adapted to store a final data frame.

4. The apparatus of claim 1, wherein the controller is adapted to transmit only data that has been previously transmitted with errors.

5. The apparatus of claim 1, wherein the communication system is a wireless local loop.

6. The apparatus of claim 1, wherein the data is re-transmitted from the buffer after a prescribed period of time if no acknowledgment of the transmitted data has been received.

7. The apparatus of claim 6, wherein the transmitted data stored in the buffer is stored as a final data frame in a physical layer.

8. The apparatus of claim 6, wherein the data is re-transmitted from the buffer before the expiration of the prescribed period of time if a negative acknowledgment is received.

9. The apparatus of claim 1, further comprising a timer configured to initiate a countdown when the data is transmitted, wherein the countdown of the timer is stopped and reset if an acknowledgment of the transmitted data is received before the timer expires.

10. The apparatus of claim 1, wherein the transmitted data stored in the buffer is re-transmitted from the buffer if a negative acknowledgment is received.

11. The apparatus of claim 10, wherein the transmission data stored in the buffer is stored as a final data frame in a physical layer.

12. A method for re-transmitting erroneous packet data, comprising:

(a) transmitting data while storing the data in a buffer on a physical layer;

(b) re-transmitting the data stored in the buffer if no acknowledgment signal is received within a prescribed period of time or if a negative acknowledgment signal is received.

13. The method of claim 12, wherein step (b) comprises:

terminating the re-transmission procedure if an acknowledgment signal is received; and

repeatedly checking whether or not the acknowledgment signal is received, until the prescribed period of time elapses if no acknowledgment signal is received.

14. The method of claim 12, wherein step (b) is repeatedly carried out until the acknowledgment signal is received.

15. The method of claim 14, wherein a timer tracks the prescribed period of time and is reset when the data is re-transmitted or when an acknowledgment is received.

16. The method of claim 12, wherein the buffer is adapted to store a final data frame.

17. The method of claim 16, wherein the re-transmission of the final data frame from the buffer occurs on the physical layer.

18. The method of claim 12, wherein the data re-transmission is made only for data involving errors.

19. The method of claim 12, wherein the data is transmitted in a wireless local loop.

20. A method of re-transmitting data in a communication system, comprising:  
transmitting data from a transmitting terminal on a physical layer;  
storing the transmitted data in a physical layer buffer of the transmitting terminal; and  
re-transmitting the stored data from the buffer if the transmission is faulty.

21. The method of claim 20, wherein the transmitted data is stored as final data frame.

22. The method of claim 20, wherein the stored data is re-transmitted if receipt of the data is not acknowledged within a prescribed period of time.

23. The method of claim 22, wherein the stored data is re-transmitted if a negative acknowledgment is received during the prescribed period of time.

24. The method of claim 20, wherein the communication system is a wireless local loop.